Multiples Homework Name:

1. List the all the possible ways that you can get the following products.
2. 84
3. 145
4. 250
5. 300
6. What factors were used to create this Product Game board?

|  |  |  |
| --- | --- | --- |
| 4 | 6 | 14 |
| 9 | 21 | 49 |

1. What factors were used to create this Product Game board? What number is missing from the grid?

|  |  |  |  |
| --- | --- | --- | --- |
| 9 | 15 | 18 |  |
| 21 | ? | 30 | 35 |
|  | 36 | 42 | 49 |

1. Using the Venn Diagram bellow place the numbers from 1 to 60 in the appropriate areas.

Multiples of 3 Multiples of 5

1. Using the words **factor, divisor, multiple, product,** and **divisible by**, write as many statements as you can about the mathematical sentence 7 × 9 = 63.
2. The cast of the school play had a party at the drama teacher’s house. There were 20 cookies and 40 carrot sticks served as refreshments. Each cast member had the same number of whole cookies and the same number of whole carrot sticks, and nothing was left over. The drama teacher did not eat. How many cast members might have been at the party? Explain your answer.
3. a) In developing ways to calculate time, astronomers divided an hour into 60 minutes. Why is 60 a good choice (better than 59 or 61)?

b) If you were to select another number to represent the minutes in an hour, what would be a good choice? Why?

**Create your own Product Game**

Suppose you want to create a product game that takes less time to play or, perhaps, more time to play than the game with the 6 x 6 product grid. You would have to decide what numbers to include in the factor list and what products to include in the product grid.

**Task**

Design a new game board for the Product Game.

* Choose factors to include in your factor list.
* Determine the products you need to include on the game board.
* Create a game board that will accommodate all the products. You decide how the game board looks.
* Decide how many squares a player must get in a row – up and down, across, or diagonally – to win.

Make the game board. Play your game board with a friend or parent and decide on what changes you think would make the game better.

Write a paragraph about why you think your game board is interesting to use for playing the Product Game. In the paragraph, describe any problems you ran into while making the board, and explain how you solved them.

Hand both your game board and your paragraph next math class. Use the following rubric to assess your work.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **5** | **4** | **3** | **2** | **1** |
| **Creativity** | Your Product Game is well thought out with clear rules and is engaging and interesting to play.  All possible products and factors are present. | Your Product Game has clear rules and is interesting to play.  All possible products and factors are present. | You have created a Product game but the rules are missing or unclear.  Products and factors are present but some are missing or incorrect. | Your Product Game board is incomplete or confusing to play.  Products and factors are missing. | You did not follow the task to create a Product Game board. |
| **Explanation** | You have a great explanation that describes how to play your game, why it is interesting to play and what challenges you faced when making the game | You have a good explanation that describes how to play your game, and what challenges you faced when making the game | Your explanation describes how to play your game, and you have a brief explanation of what challenges you faced when making the game. | You have written a poor explanation of how to play your game and list any challenges you may have faced when creating the game. | You did not provide an explanation for your game. |